

USER'S MANUAL

MINILAB

UNIVERSAL MIDI CONTROLLER



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April 2013 edition

Thank you for purchasing Arturia's MiniLab!

This manual covers the features and operation of Arturia's **MiniLab**, a full-featured MIDI controller designed to work with any DAW software or plug-in you own.

Note: While MiniLab is part of a package which includes our Analog Lab software, this manual will focus only on the MiniLab controller hardware. Please refer to the Analog Lab user manual in order to learn about the features of the software.

In this package you will find:

- One MiniLab keyboard controller
- One USB cable
- The Quick Start Guide for the MiniLab. This document has a sticker on the inside of its front cover providing the serial number and registration code you will need in order to register your MiniLab online and authorize the Analog Lab software.

Be sure to store your registration information carefully! It contains the serial number that is required during the online registration process. Registering your MiniLab provides the following benefits:

- It enables you to download the Analog Lab software installer and user manual, the MiniLab user manual, and the MiniLab MIDI Control Center software
- It provides by e-mail the unlock code you will need to authorize the Analog Lab software on your computer. See Chapter 3 of the Analog Lab user manual for more information about its authorization procedure.

Special Message Section

SPECIFICATIONS SUBJECT TO CHANGE:

The information contained in this manual is believed to be correct at the time of printing. However, Arturia reserves the right to change or modify any of the specifications without notice or obligation to update the hardware that has been purchased.

IMPORTANT:

The product and its software, when used in combination with an amplifier, headphones or speakers, may be able to produce sound levels that could cause permanent hearing loss. DO NOT operate for long periods of time at a high level or at a level that is uncomfortable.

If you encounter any hearing loss or ringing in the ears, you should consult an audiologist.

NOTICE:

Service charges incurred due to a lack of knowledge relating to how a function or feature works (when the product is operating as designed) are not covered by the manufacturer's warranty, and are therefore the owner's responsibility. Please study this manual carefully and consult your dealer before requesting service.

PRECAUTIONS INCLUDE, BUT ARE NOT LIMITED TO, THE FOLLOWING:

1. Read and understand all the instructions.
2. Always follow the instructions on the instrument.
3. Before cleaning the instrument, always remove the USB cable. When cleaning, use a soft and dry cloth. Do not use gasoline, alcohol, acetone, turpentine or any other organic solutions; do not use a liquid cleaner, spray or cloth that's too wet.
4. Do not use the instrument near water or moisture, such as a bathtub, sink, swimming pool or similar place.
5. Do not place the instrument in an unstable position where it might accidentally fall over.
6. Do not place heavy objects on the instrument. Do not block openings or vents of the instrument; these locations are used for air circulation to prevent the instrument from overheating. Do not place the instrument near a heat vent or any place of poor air circulation.
7. Do not open and insert anything into the instrument that may cause a fire or electrical shock.
8. Do not spill any kind of liquid onto the instrument.
9. Always take the instrument to a qualified service center. You will invalidate your warranty if you open and remove the cover, and improper assembly may cause electrical shock or other malfunctions.
10. Do not use the instrument with thunder and lightning present; otherwise it may cause long distance electrical shock.
11. Do not expose the instrument to hot sunlight.
12. Do not use the instrument when there is a gas leak nearby.
13. Arturia is not responsible for any damage or data loss caused by improper operation of the instrument.

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1 INTRODUCTION

MiniLab is Arturia's most compact and feature-filled USB MIDI keyboard controller yet. It has a 25-key velocity-sensitive mini-keyboard along with a control surface designed for perfect integration with our software synthesizers. The attention to detail poured into MiniLab also makes it perfect for working with any other software plug-in or DAW you have available.

Beyond being a great MIDI controller, MiniLab comes with our Analog Lab software that includes an astounding arsenal of classic synth and keyboard sounds. The integration of these two products results in a powerful hybrid synthesizer with excellent functionality and great sound.

Minilab also features our brand new pitch and modulation touch strips: low-profile controllers which offer a different take on the traditional wheels while maintaining their expressiveness with 'last position hold' or 'return to zero' modes of operation.

The 16 assignable encoders give you the control you need to exploit the full potential of any USB audio product you encounter. There's also an assignable pedal input jack for even greater flexibility.

Two banks of 8 backlit performance pads, for 16 total, can be assigned easily as pads, MIDI CC buttons or Program change switches.

On top of that, the included MIDI Control Center software lets you map parameters to the controllers and pads in a simple and easy way directly from your computer and store them into presets. Those presets are then stored in the MiniLab hardware for instant recall.

Made for the musician on the go or the performer with limited space, the MiniLab gives you a great depth of features in a portable package that is sturdy and looks great.

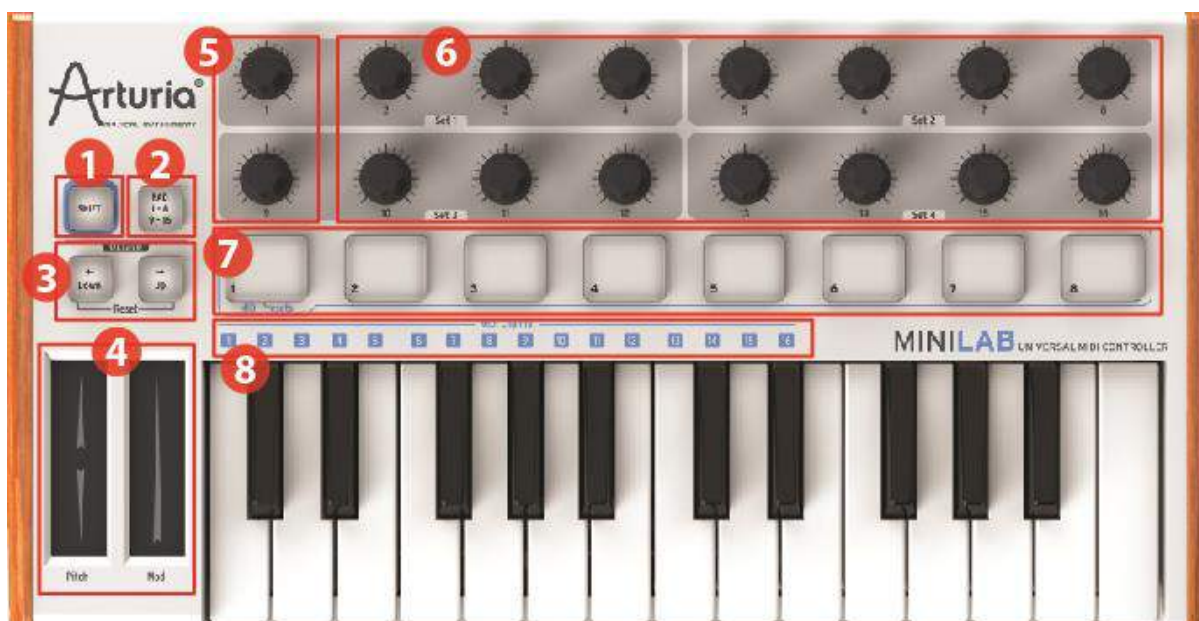
2 MINILAB OVERVIEW

2.1 First step: Making the connections

Setting up the MiniLab keyboard for use with Analog Lab is fast and simple:

- 1) First install the Analog Lab program on your computer and be sure to register and authorize it (see Chapters 2 and 3 of the Analog Lab user manual).
- 2) Connect the MiniLab keyboard to the computer. MiniLab is powered by its USB connection, so all you have to do is connect a USB cable from your computer to the MiniLab keyboard.
- 3) MiniLab is a class-compliant USB device, so its driver will be automatically installed when you connect MiniLab to your computer.
- 4) Fire up the Analog Lab software and read on!

2.2 Front panel overview



MiniLab front panel

1: Shift button	Hold Shift and press a Pad to select a Snapshot Hold Shift, press a key to select the MIDI Channel
2: Pad 1-8 / 9-16 button	Use to access Pad banks 1-8 or 9-16
3: Octave Down / Up buttons	Shift the keyboard range +/- 4 octaves. Press both buttons at once to reset the range to center.
4: Pitch / Mod Touch strips	Pitch bend and modulation are activated by pressing the touch strips. "Return to Zero" or "Hold" settings can be selected for the Pitch strip using the MIDI Control Center software.
5: Knobs 1 and 9	Analog Lab: Knob 1 controls master volume and Knob 9 selects presets. For other software programs use the MIDI Control Center software to alter these knobs' assignments.
6: Knobs 2-8 and 10-16	Pre-configured to control various parameters for each preset in Analog Lab. For other software programs use the MIDI Control Center software to alter these knobs' assignments.
7: Pads 1-8 or 9-16	Use with Analog Lab to recall favorite presets (Snapshots) or to define and trigger chords. For other software programs use the MIDI Control Center software to alter the pads' assignments.
8: MIDI Channel selector keys	Press the Shift button and then one of the keys to select the current MIDI channel for MiniLab.


2.2.1 Keyboard

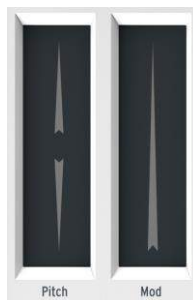
MiniLab has a 25-key velocity-sensitive mini-keyboard with a control surface designed for perfect integration with the Analog Lab software interface.

2.2.2 Pitch and Modulation touch strips

If you touch the Pitch bend strip at its center and move your finger forward or backward it will alter the pitch of the played sound. The range of the pitch bend is determined by the preset that has been selected.

Similarly, moving your finger along the Modulation strip alters the modulation amount of the played sound. The level of modulation introduced by activating the modulation strip depends on which preset is selected.

 *The modulation strip may not be assigned to modulate a parameter in some presets.*



Pitch and Modulation strips

2.2.3 Shift and Pad Bank buttons

Let's start on the right: The Pads 1-8 / 9-16 button toggles the MiniLab pads between two different sets of eight pad assignments.

The Shift button serves two purposes: recalling one of eight presets from memory (Shift + pad), and selecting the master MIDI channel (Shift + keyboard).

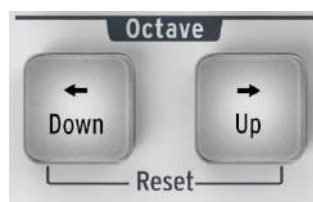


The Shift and Pad Bank buttons

2.2.4 Octave buttons

Pushing one of the down or up buttons will transpose the keyboard by as much as four octaves up or down. The farther from center the keyboard has been transposed, the faster the buttons will flash.

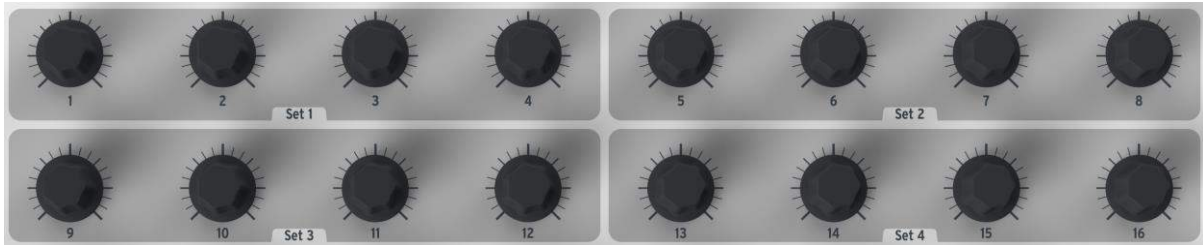
To reset the keyboard octave range back to center, press both buttons at the same time.



Octave buttons

2.2.5 Parameter control encoders

The sixteen encoders can be assigned to control any editable parameter on the selected device. The assignments within each Analog Lab preset and within each synthesizer type may vary according to the parameters that are available.



The Parameter control encoders

2.2.6 The pads / preset buttons

The eight large buttons arranged across the front of the MiniLab serve a dual purpose. Their exact duties are determined by the state of the Shift and Pads buttons.

For example: The pads can be assigned to trigger up to sixteen particular MIDI notes (drums, stabs, bass notes, whatever). When the Pads 1-8 / 9-16 button is not lit, the first bank of pads are active (1-8). When the Pads 1-8 / 9-16 button **is** lit, the second bank of pads are active (9-16).

However, when used in conjunction with the Shift button, the pads will recall one of eight MIDI presets. This is accomplished by holding the Shift button and pressing one of the pads.



The pads / preset buttons

2.3 Side panel overview

The side panel of the MiniLab contains two important connectors: the footswitch jack and a USB Type B jack.



Side panel

The footswitch jack functions as an on/off switch and can be configured for either momentary applications (such as sustain pedal) or latching behavior (first press/release sends one event, second press/release sends the next event).

2.4 Rear panel overview

Arturia's MiniLab is highly portable, so we've added a Kensington security lock to the rear panel.



Rear panel

3 USING MINILAB WITH ANALOG LAB

The information in this chapter will focus mostly on the MiniLab keyboard and how it interacts with the Analog Lab software. As a result this chapter will touch only briefly on the various Analog Lab parameters that MiniLab controls. For more details about Analog Lab, please refer to the Analog Lab user manual.

3.1 Audio & MIDI Setup

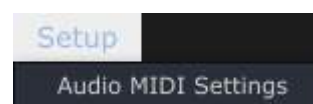
The first thing to do after launching Analog Lab is to make sure the software is set to output Audio correctly and that it will receive MIDI from the MiniLab keyboard.

3.1.1 Audio setup

In order to check the audio driver settings for Analog Lab, open the Preferences window by pressing [Command] + [,] or by selecting it from the Analog Lab drop-down menu.

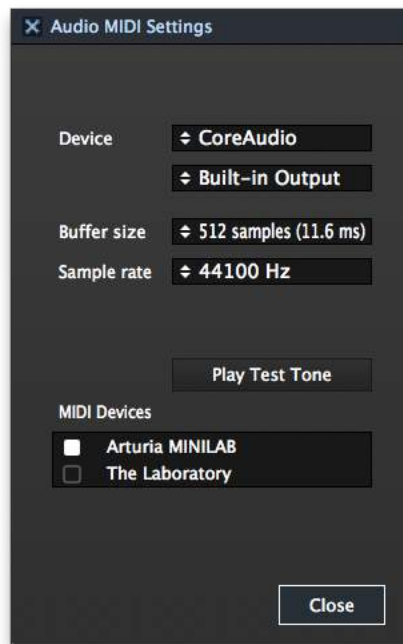


The Preferences menu item for Mac OS X...



...and for Windows

This will open the Audio & MIDI Settings window, which is where the preferred audio output device will be selected. Now click the Test button: If you hear a short sine wave, then your audio is set up correctly. If not, make sure the correct audio driver is selected and that your headphones or speakers are properly connected and turned on.



Audio and MIDI Settings window

3.1.2 MIDI setup

Connecting a USB MIDI keyboard controller with Analog Lab is very simple. As shown above, navigate to the Audio & MIDI Settings window by pressing [Command] + [,] or by selecting it from the Analog Lab drop-down menu as shown in section 3.1.1. This will open the Audio & MIDI Settings window, which is where the preferred MIDI controller will be selected.

The Audio & MIDI Settings window has a section labeled "MIDI Devices". Simply click on the box next to the words "Arturia MiniLab"; this will enable your MiniLab keyboard to control Analog Lab.

3.2 Selecting Presets

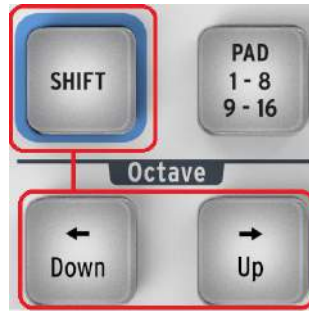
3.2.1 The Analog Lab "Preset"

When MiniLab is first powered-on by its connection to your computer it does not recall one of the eight preset memory locations. Its default state is actually sort of a "preset 9" specifically configured to work with Analog Lab. The control assignments in this case correspond to particular parameters within each of Arturia's soft-synthesizers, so that with this hardware/software combination there will be very little setup for you to do. It's one of the fastest ways imaginable to get the exact sound you want and start making music with it.

There are two ways to use MiniLab to select presets within Analog Lab:

3.2.1.1 *Selecting Presets in Analog Lab: Shift + Down/Up*

Hold the Shift button and press one of the two buttons right below it: Shift + Down will select the previous preset, and Shift + Up will select the next preset.



3.2.1.2 Selecting Presets in Analog Lab: Knob 9

For rapid scrolling through the Analog Lab Preset list, simply turn the left-most knob in the second row: Knob 9. The preset will be selected shortly after the scrolling stops.

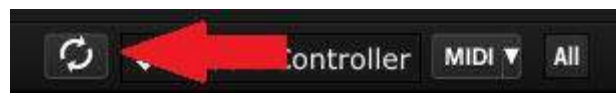


3.2.2 Selecting MiniLab Presets 1-8

Each of MiniLab's eight presets can be configured to work with other software applications such as a DAW or a plug-in. To select one of the preset locations from 1-8, hold the Shift button and press one of the pads (1-8).

3.3 Setup

In section 3.1 we described how to get audio out of Analog Lab into the world and how to get MIDI from the MiniLab into Analog Lab. There's only one other detail of which you need to be aware: the "Sync" button in the tool bar.



If you already have MiniLab connected to your computer, then when you launch Analog Lab this connection will be established automatically. But if you've started Analog Lab and then realized your MiniLab was still in its case from last night's gig, there's no need to shut down Analog Lab; just go ahead and connect the MiniLab, wait a second for the computer to recognize its presence, and then click the "Sync" button. The connection will be established immediately and the virtual keyboard will be automatically configured to look and act like the MiniLab.

3.4 Using the Knobs

Once you have started Analog Lab and configured the Audio and MIDI settings correctly, all you need to do is select a Sound or Multi from the preset list and start playing. Each of the knobs on the MiniLab will assume their assigned parameters immediately and you can begin experimenting by making your first edits inside that preset.

You'll discover immediately that Knob 1 is reserved for the Master Volume parameter and Knob 9 is reserved for preset selection, which is why it is grayed out (see section 3.2.1.2). But it is possible to change the parameter assignments for every other knob by using the pull-down menu under each knob inside the Analog Lab screen.



Note: Each time you select a new preset it is possible the knob assignments will change. This is partly because there may be different parameters available for the synthesizer on which that preset is based.

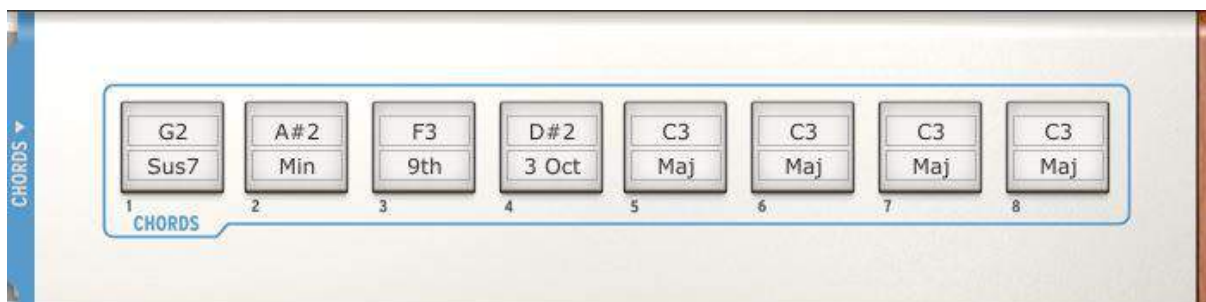
For more details on editing a preset, see the Analog Lab user manual.

3.5 Using the Pads

With Analog Lab active and a Sound selected, play one of the pads on the MiniLab. What you hear next will depend on the status of the Pad 1-8 / 9-16 button.

3.5.1 Play a Chord

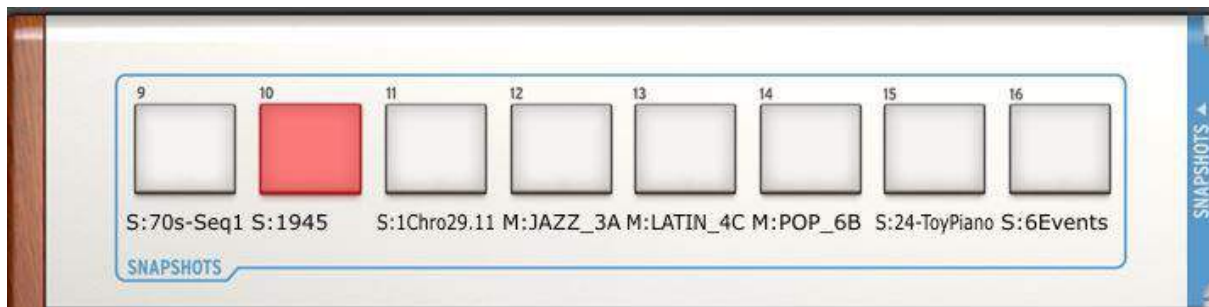
If the Pad 1-8 / 9-16 button on the MiniLab is not lit then you will hear a note or a chord played on the selected synthesizer. The exact chord can be defined inside Analog Lab by clicking on the blue tab on the **right** side of the virtual keyboard (the one labeled CHORDS). A virtual panel will slide out to the left and allow you to specify a different chord per pad.



3.5.2 Select a Snapshot

If the Pad 1-8 / 9-16 button on the MiniLab is lit then when a pad is pressed the MiniLab will select either a new Sound or a new Multi, depending on how it has been set up already.

The exact preset chosen by these pads can be defined inside Analog Lab by clicking on the blue tab on the **left** side of the virtual keyboard (the one labeled SNAPSHOTS). A virtual panel will slide out to the right and allow access to the settings for pads 9-16.



Simply click and drag a Sound or a Multi and drop it onto one of the pads. Then grab another and drop it onto the next pad, and so on. Before you know it your most inspiring sounds will be at your fingertips and instantly accessible.

Note: In the picture above, a letter "S" before a preset name indicates that a Sound will be selected by that Snapshot. A letter "M" before the preset name means that a Multi has been placed there.

4 MIDI CONTROL CENTER

The MIDI Control Center is a separate utility that can be used to configure the MIDI settings of your MiniLab keyboard. This is especially useful if you would like to make the most of the potential relationship between the MiniLab and non-Arturia plugins and DAWs.

4.1 System requirements: MIDI Control Center

4.1.1 REQUIRED MINIMUM CONFIGURATION:

PC: 2 GB RAM; CPU 2 GHz

Mac: 2 GB RAM; CPU 2 GHz

4.1.2 PLATFORM SPECIFICATIONS:

Windows: XP/VISTA/SEVEN/EIGHT

Mac OS X: 10.6 or higher

4.2 Installing the MiniLab MIDI Control Center software


After downloading the MiniLab MIDI Control Center software, double-click on the archive file to open it. Next, drag the application into the same folder where Analog Lab was installed:

- OS X: [System drive] / Applications / Arturia
- Windows: C:\Program Files (x86)\Arturia



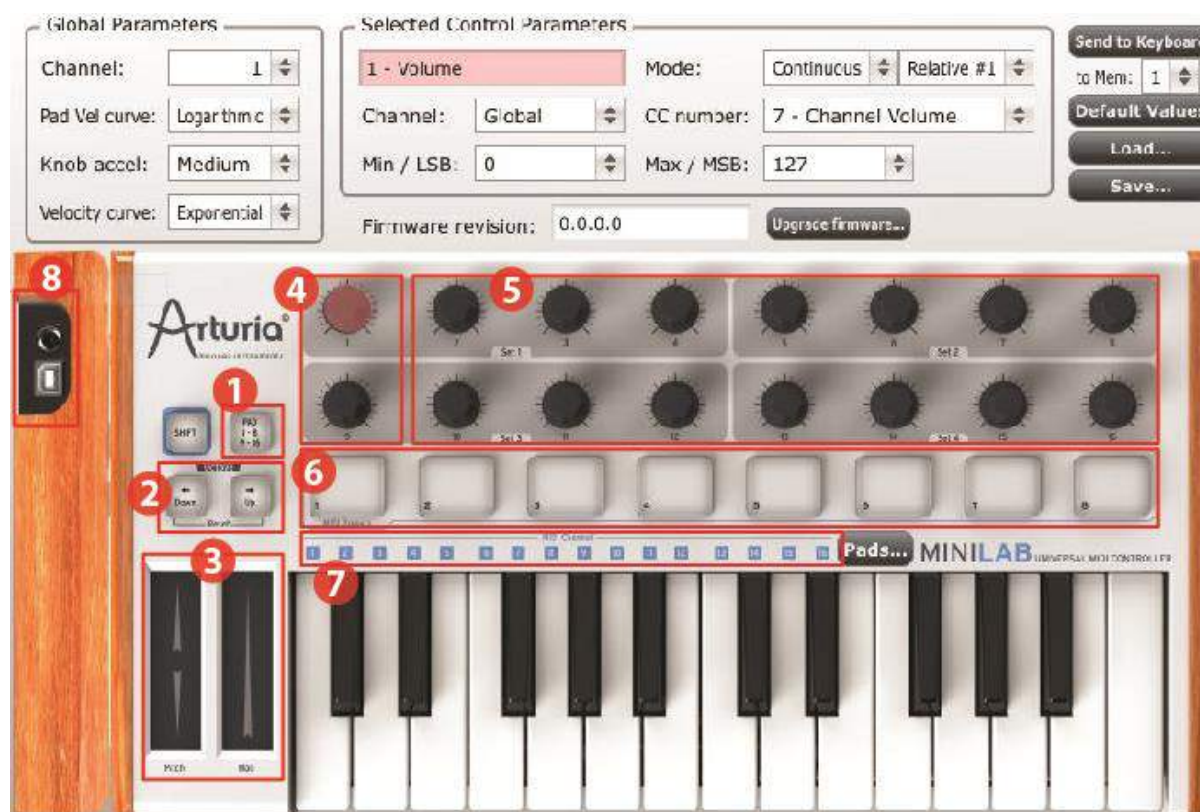
4.3 Launching the MIDI Control Center

Before launching the MIDI Control Center, make sure your Arturia MiniLab keyboard is connected to your computer.

 The MIDI Control Center is specifically designed for the MiniLab keyboard; it will not work with another MIDI device.

4.3.1 The virtual keyboard and its controls

The MIDI Control Center utility will detect the MiniLab keyboard automatically and load its current configuration into the computer memory. This is what you will see:



We'll go through the Global and Selected Control Parameter sections later. Let's look at the numbered sections of the virtual keyboard first:

1: Pad 1-8 / 9-16 button	Use to access Pad banks 1-8 or 9-16
2: Octave Down / Up buttons	Use as assignable MIDI switches (not to transpose)
3: Pitch / Mod Touch strips	Use default settings or as assignable MIDI controls
4: Knobs 1 and 9	Use as assignable MIDI controls in other programs; their functions are fixed inside Analog Lab
5: Knobs 2-8 and 10-16	Use as assignable MIDI controls
6: Pads 1-8 or 9-16	Use as assignable MIDI switches
7: MIDI Channel selectors	Not used in the MIDI Control Center software
8: Foot switch control	Use as assignable MIDI switch

4.3.2 The Global and Selected Control Parameter sections

The top area of the screen is where the keyboard settings are edited. There are Global parameters such as MIDI Channel and Velocity curve, and the Selected Control Parameters section allows you to determine the MIDI controller setting for each control.

The lower half of the screen corresponds to the actual components of your MiniLab controller and is used to select a knob, pad, control strip or the pedal input so you can alter its MIDI assignment.

Note: the Shift button does not perform a function of its own inside the MIDI Control Center. However, the Shift button on the MiniLab controller is used along with other buttons to perform various functions inside the MIDI Control Center software.

See sections 4.4.3 through 4.4.6 for a description of the Send to Keyboard (4.4.3), Default Values (4.4.4), and Load/Save buttons (4.4.6 and 4.4.5, respectively).

4.4 Changing MIDI settings

4.4.1 Global parameters

The settings that can be configured globally (i.e. for the entire keyboard) are:

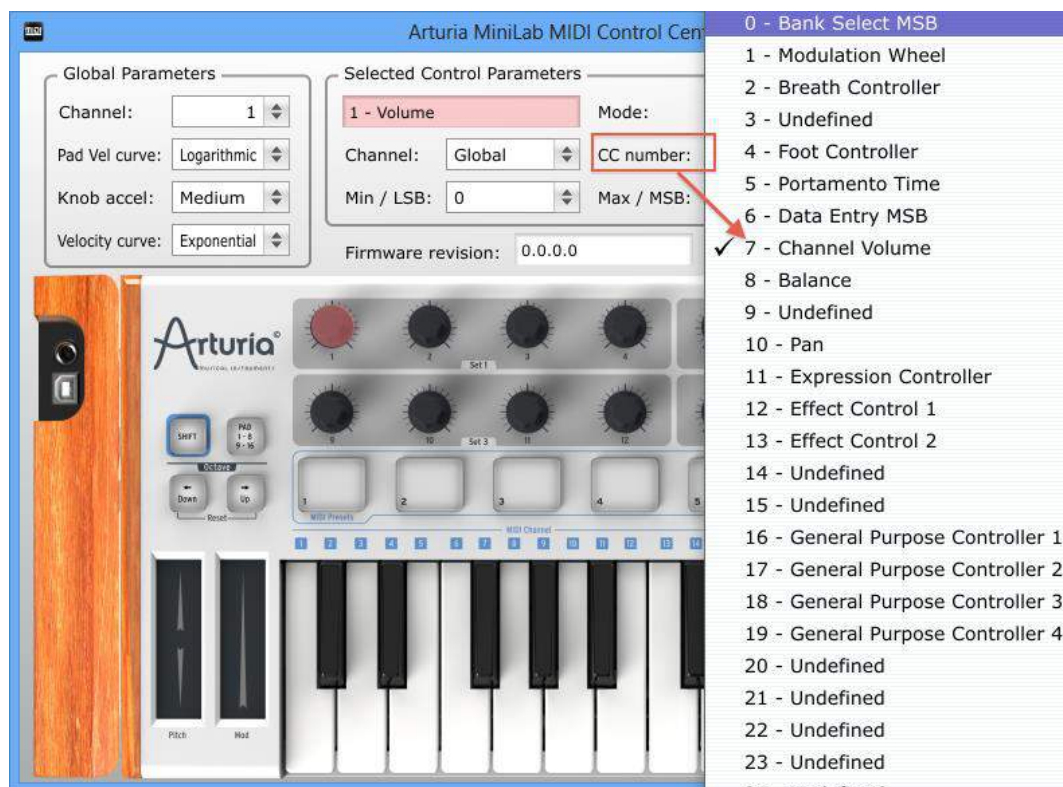
Channel	The MIDI channel the keyboard will use to send all MIDI events for any controller set to the Global Channel.
Pad Vel curve	Several velocity curves are available; choose the one that makes the pads work best for you. Also available is a fixed velocity setting of 127 (the "Full" option).
Knob accel	Set the knobs so it takes five or six turns, a couple of turns, or one turn to take the parameters from minimum to maximum.
Velocity curve	Tailor the keyboard to your playing style by selecting one of three velocity curves or a fixed velocity of 127 (Full).

4.4.2 Selected Control parameters

To configure the MIDI Continuous Controller number (MIDI CC number) used for a specific control on your keyboard:

- ▶ Click on the control; it will be highlighted in red and its current settings will be displayed in the "Selected Control Parameters" section.
- ▶ Change the various settings for this control so it sends the MIDI data you want the target device to receive.

For example, you can change the MIDI CC number assigned to the first encoder by clicking on the virtual knob and selecting a value from the "CC Number" drop-down list, like so:



Each type of control has its own range of possible settings: the encoders, the pads, the control strips, and the pedal.


There are two windows in the Selected Control Parameters section which always mean the same thing for each of the controls:

Name	The name of the selected control will appear (not editable)
Channel	The MIDI channel for each control can be set independently or it can remain assigned to the Global channel.

The remaining windows in the Selected Control Parameters section are very flexible, so each type of control will need its own explanation.

4.4.2.1 Settings for the Encoders

Available settings for each of the encoders are:

Continuous	<p>Absolute: The default setting for Analog Lab: the knobs will send absolute values from 0-127.</p> <p>Relative 1: The knob will send values 61-63 when turned in a negative direction and values 65-67 when turned in a positive direction. The turn speed determines the parameter response.</p> <p>Relative 2: The knob will send values 125-127 when turned in a negative direction and values 1-3 when turned in a positive direction. The turn speed determines the parameter response.</p> <p>Relative 3: The knob will send values 13-15 when turned in a negative direction and values 17-19 when turned in a positive direction. The turn speed determines the parameter response.</p> <hr/> <p> The relative mode settings 2-3 are not used in Analog Lab. They are provided for the sake of full compatibility with other MIDI devices or software. Please refer to the documentation for the target device or software to determine which of these settings should be used.</p>
NRPN/RPN	<p>NRPN: Non-Registered Parameter Numbers are used to access many more parameters than the unassigned MIDI CC numbers could represent. Use the LSB / MSB fields to specify the controller number. Min/Max are ignored in this case.</p> <p><i>Please refer to the documentation of the receiving device for specific settings.</i></p> <p>RPN: Registered Parameter Numbers control specific parameters such as Pitch Bend range and Tuning. Use the LSB / MSB fields to specify the parameter number. Min/Max are ignored in this case.</p>
CC number	<p>This parameter is available when the Mode is set to Continuous. There are 128 possible values (0-127).</p>
Min / LSB and Max / MSB	<p>Depending on the settings of the other parameters, these fields will serve one of the following functions:</p> <ul style="list-style-type: none">• Define a minimum / maximum range for a standard MIDI Continuous Controller setting (switch-type or variable). MSB/LSB are not used in this case• NRPN/RPN: specify the Most Significant Byte (MSB) or Least Significant Byte (LSB) for the controller number. Min/Max are not used in this case

4.4.2.2 Settings for the Pads

Settings that are available for each of the pads are:

MMC	<p>Set the CC number value to the same number to configure the pad to send the following MIDI Machine Control commands:</p> <ul style="list-style-type: none">01 Stop02 Start04 Fast forward05 Rewind06 Record
Switched	<p>Toggle: With each press of the pad a value will be sent for the selected CC number: first the Max/LSB number and then the Min/MSB number, and so on.</p> <p>Gate: When the pad is pressed it will send the Max/MSB value for the selected CC number, and when released the Min/LSB value will be sent.</p>
MIDI Note	<p>Toggle: With each press of the pad a Note On or Note Off message will be sent for the selected MIDI Note number: the first press will play the note at the velocity specified by the Max/MSB value; the second press will send a Note Off message at the velocity specified by the Min/LSB value.</p> <p>Gate: When the pad is pressed it will play the note at the velocity specified by the Max value; releasing the pad will send a Note Off message at the velocity specified by the Min value.</p>
Patch Chg	<p>Use the CC number field to select the Program Change number. MSB and LSB are used to specify the Bank Select message that may be expected by the receiving device</p>
Min / LSB and Max / MSB	<p>Depending on the settings of the other parameters, these fields will serve one of the following functions:</p> <ul style="list-style-type: none">• Define a minimum / maximum range for a standard MIDI Continuous Controller setting (switch-type or variable). MSB/LSB are not used in this case.• Define the velocity values for Note On and Note Off messages. Note On velocity is set by the Max value; Note Off velocity is set by the Min value. MSB/LSB are not used in this case.• Define the Bank Select message to be sent with a Patch Change. Min/Max are not used in this case.

4.4.2.3 Settings for the Pitch Strip

Settings that are available for the pitch strip are:

Pitch Bend	Standard: After the pitch strip is released the value will return to zero (center) Hold: When the pitch strip is released the most recent value will be retained until that strip is touched again.
-------------------	--

4.4.2.4 Settings for the Modulation Strip

Settings that are available for the modulation strip are:

Continuous	Set the CC number and the Min/Max range as desired and the Mod strip will transmit that MIDI data when pressed.
NRPN/RPN	NRPN: Non-Registered Parameter Numbers are used to access many more parameters than the unassigned MIDI CC numbers could represent. Use the LSB / MSB fields to specify the controller number. Min/Max are ignored in this case. <i>Please refer to the documentation of the receiving device for specific settings.</i> RPN: Registered Parameter Numbers control specific parameters such as Pitch Bend range and Tuning. Use the LSB / MSB fields to specify the parameter number. Min/Max are ignored in this case.
Aftertouch	Standard: After the modulation strip is released the aftertouch value will return to zero Hold: When the modulation strip is released the most recent aftertouch value will be retained until that strip is touched again.
Min / LSB and Max / MSB	Depending on the settings of the other parameters, these fields will serve one of the following functions: <ul style="list-style-type: none">• Define a minimum / maximum range for a standard MIDI Continuous Controller setting (switch-type or variable). MSB/LSB are not used in this case.• NRPN/RPN: specify the Most Significant Byte (MSB) or Least Significant Byte (LSB) for the controller number. Min/Max are not used in this case.

4.4.2.5 Settings for the Pedal

To access the pedal control, click on the image of the pedal jack on the left panel, just above the image of the USB connector. Settings that are available for the pedal are:

Switched Toggle: With each press of the pedal a value will be sent for the selected CC number: first the Max/LSB number and then the Min/MSB number, and so on.

Gate: When the pedal is pressed it will send the Max/MSB value for the selected CC number, and when released the Min/LSB value will be sent.

MIDI Note Toggle: With each press of the pedal a Note On or Note Off message will be sent for the selected MIDI Note number: the first press will play the note at the velocity specified by the Max/MSB value; the second press will send a Note Off message at the velocity specified by the Min/LSB value.

Gate: When the pedal is pressed it will play the note at the velocity specified by the Max value; releasing the pad will send a Note Off message at the velocity specified by the Min value.

4.4.3 Send your settings to the keyboard


Changes made inside the MIDI Control Center are actually not stored inside the MiniLab until you press the "Send to Keyboard" button. If you don't do this important step then the MiniLab will not be able to recall the changes to you made to any of the controls' functions if a different preset is loaded.

So once you have everything the way you want, select one of the eight memory locations by clicking on the "to Mem" menu:



Please note: This procedure will overwrite whatever is in the targeted memory location on the MiniLab, so be sure you've chosen the right destination. Once you're sure, press "Send to Keyboard" and it'll be there the next time you fire up the MiniLab.

4.4.4 Restoring the default values

 Clicking the Default Values button will initialize the settings for every control and reset the Global settings to their factory default values! If there are control settings you don't want to lose, be sure you have saved them to your computer and/or one of the memory locations of your MiniLab before you click this button.

If you want to start creating a new set of controller assignments from scratch, simply press the "Default Values" button. This will reset all of the controller assignments and the Global settings to their factory defaults.




4.4.5 Saving settings to the computer

You will probably see before long that there are a lot of different ways you can use your MiniLab. In addition to working with Analog Lab, where all of our soft-synthesizers are already configured for instant compatibility, you can also set up the MiniLab to work with any other music-related software you own.

So you'll appreciate the ability to save each configuration by name for later recall. As soon as you've dialed in the controls for a particular scenario, click the "Save" button and store that setup to your computer.



 The "Save" process only saves the equivalent of one memory location on the MiniLab, not all eight of them.

4.4.6 Loading settings from the computer

When you know which configurations you need to pre-load into your MiniLab, click the "Load" button and load them into the MIDI Control Center. From there, use the "Send to Keyboard" function described in section 4.4.3.

5 USING MINILAB WITH OTHER SOFTWARE

5.1 Creating MIDI Presets with the MIDI Control Center

5.1.1 Overview: What is a MiniLab Preset?

Thanks to the MIDI Control Center software described in chapter 4 it's possible to configure the MiniLab to work with practically any device or software capable of responding to MIDI information.

To summarize, here are some examples of what you can do with a MiniLab preset:

- Assign pads to send MIDI Machine Control commands (MMC)
- Use the pads or the pedal to transmit MIDI notes
- Switch between two values of any MIDI CC# by playing a pad
- Assign an encoder to control any MIDI CC# and define its operational range
- Send Aftertouch messages from the Mod strip, set its min/max limits, and select 'return to zero' or 'hold' behavior
- Save the entire set of altered controls to one of MiniLab's eight preset locations
- Define another seven sets of parameter assignments and save each one to a different memory location
- Recall any of the eight personalized presets easily and immediately.

We'll take you through examples of those scenarios in this chapter.

5.1.2 Assign a Pad to Start / Stop MMC

One feature that often comes in handy with a controller keyboard is the ability to start and stop a song without having to use the computer keyboard or mouse. It's really easy to set up the MiniLab pads to do that.

For this example we'll use Pad 7 to send Stop commands and Pad 8 to send Start commands. This is accomplished through the use of MIDI Machine Control commands, which you've probably seen abbreviated as "MMC".

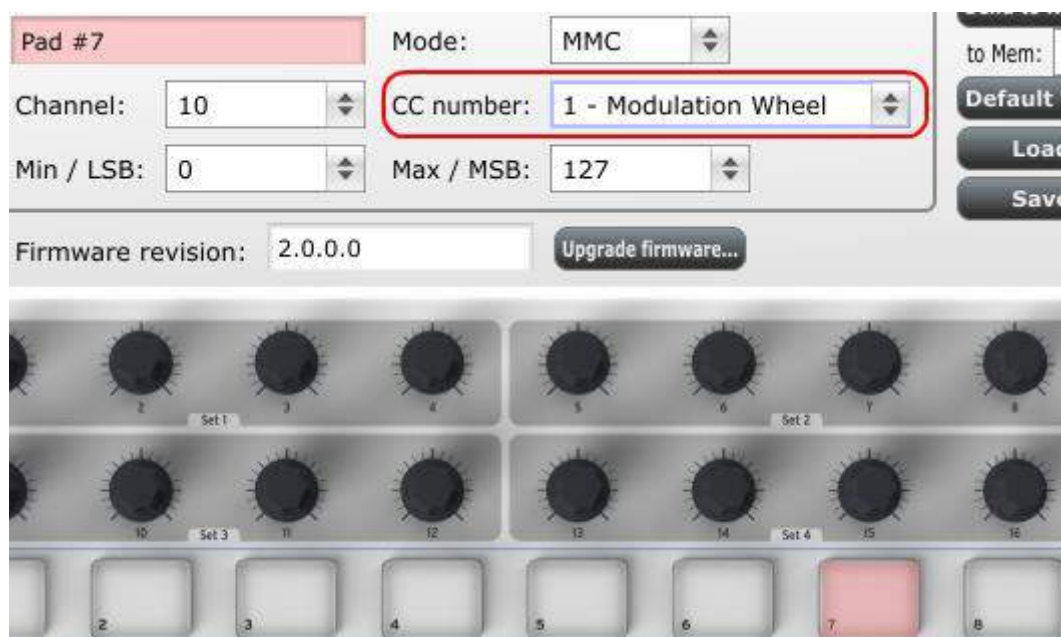
5.1.2.1 Select the Pad Mode

Let's begin by selecting Pad 7 by clicking on its graphic in the MIDI Control Center or by tapping Pad 7 on the MiniLab. Then click the Mode field to activate the pull-down menu:



5.1.2.2 Set the MMC Message number

Once the Mode has been set to MMC, the trick is to set both the LSB and MSB to the same number so the pad knows which command to send. We learned in section 4.4.2.2 that the MMC Stop command needs the CC number set to 1, like so:



Next, select Pad 8 so we can set it to the MMC command for "Start". This means the CC number must be set to 2:



Now you should have Pad 8 set to start your song and Pad 7 set to start it. Of course you can assign those functions to any pad you like, now that you know how to do it.

Note: Refer to section 4.4.2.2 for a complete list of MMC commands that are available for use with the MiniLab pads.

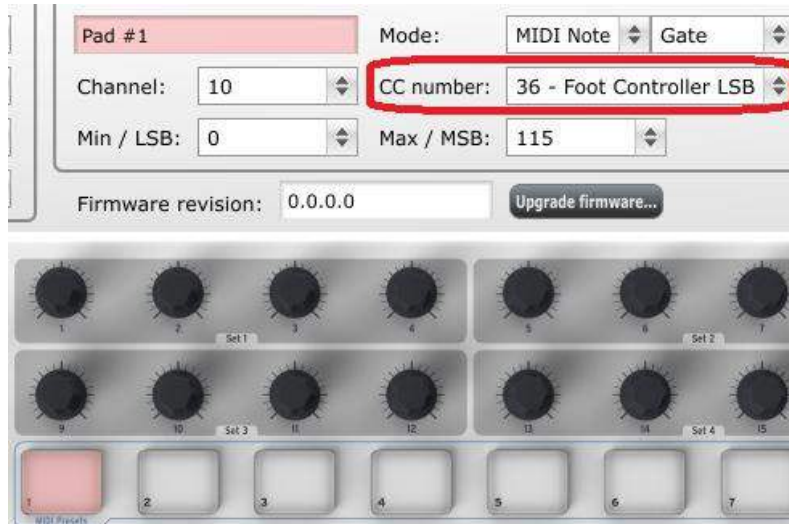
5.1.3 Assign a couple of Pads to MIDI notes

The natural thing to do when you're starting a song is to lay down the kick and snare tracks. The MiniLab pads can be assigned to any MIDI note number that you like, so for this example we'll set Pads 1 and 2 to trigger the General MIDI note numbers for the Bass drum and Snare drum (MIDI note numbers 36 and 38, respectively).

By default the pads have their Mode set to MIDI note, so when you select each Pad we'll get right down to selecting the MIDI note number and velocity values. Let's leave the other setting to "Gate" so the notes shut off when you lift the pad; you can try the "Toggle" value later if you'd like the MIDI note to stay "On" until you hit the pad a second time.

5.1.3.1 Select the MIDI note number: Kick

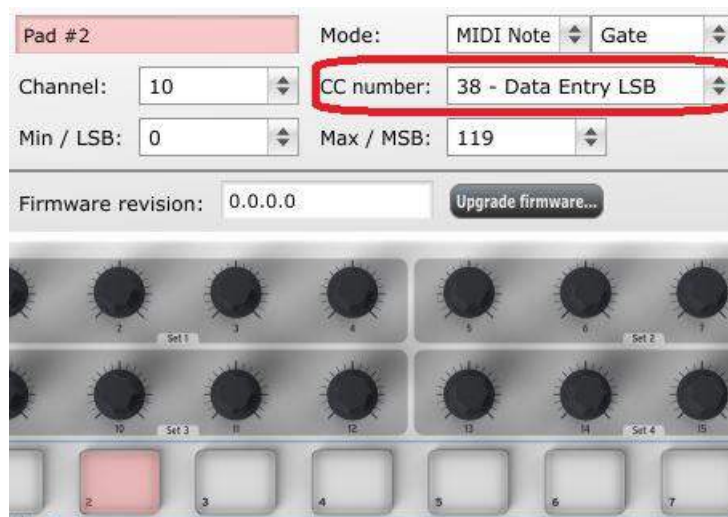
The CC number field is used to set the MIDI note number, which makes sense: there are 128 MIDI Controller numbers and 128 MIDI Note numbers. So click the pull-down menu and set this value to 36 to select the General MIDI Kick drum note number:



We'll show you how to set Pad 2 to the Snare drum note number in section 5.1.3.3.

5.1.3.3 Select the MIDI note number: Snare

Setting Pad 2 to trigger the snare is done the same way, only by choosing a different MIDI note number (38 in this case):

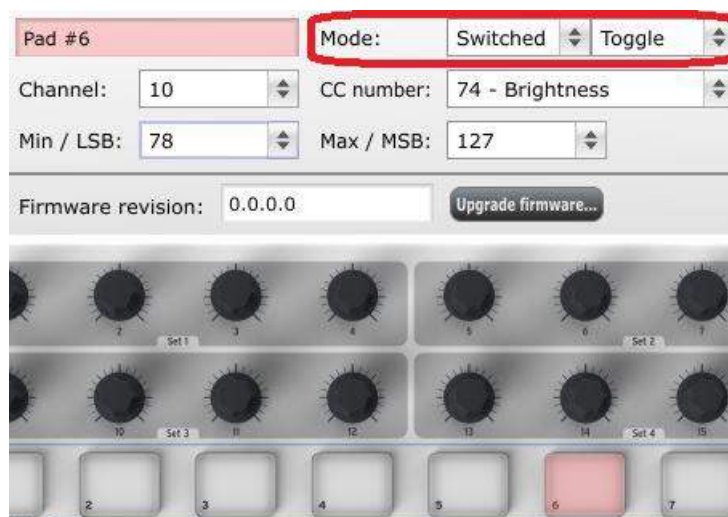


So now you're ready to lay down the groove for your song: You have Pads 1 and 2 set to play the Kick and Snare, and Pads 7 and 8 set to Stop and Start the song.

5.1.4 Assign a Pad to toggle a MIDI CC # between two values

One popular musical effect these days is to take an audio loop, filter it heavily for certain sections of a song, and switch it back to the full-open sound later in the song. You can pre-configure one of the MiniLab pads to send those commands to a filter plug-in that should be readily available in your DAW software.

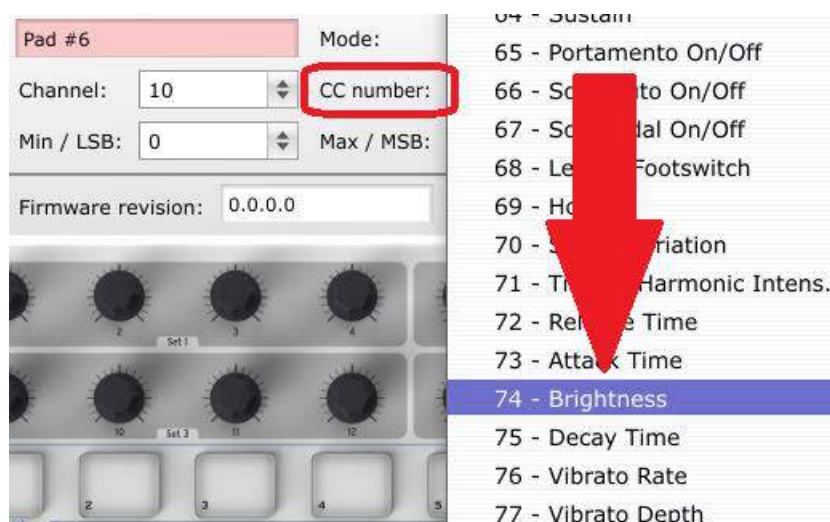
We'll use Pad 6 for this example. Select it and then use the pull-down Mode menus to select "Switched" and "Toggle":



These settings will allow you to send two different values of a particular MIDI CC number each time you press the pad.

There are a couple of MIDI CC numbers that have been assigned the task of controlling filter brightness (CC# 74) or harmonic content (CC# 71). We'll use CC# 74 for this example.

Click on the CC number field and select the Brightness controller number as shown:



Next we'll set some minimum and maximum values that might work (adjust them to suit the audio source):

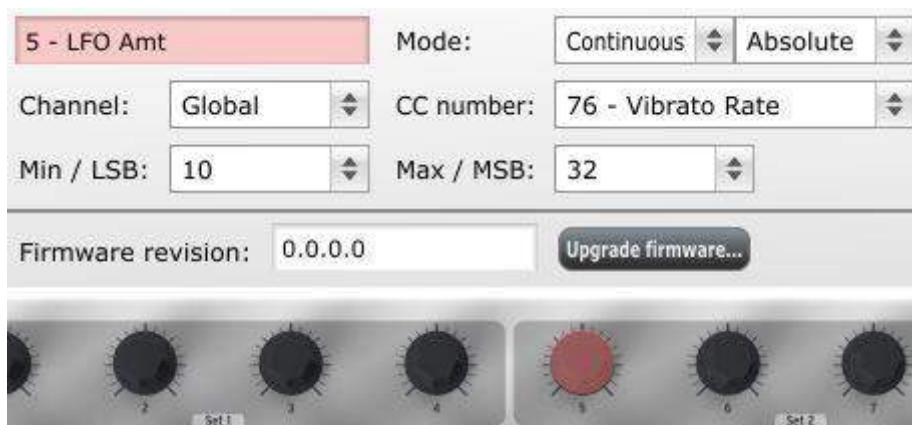


The first press of Pad 6 will send a CC# 74 command with a value of 78, which will close the filter down part way but still let a lot of the audio pass through. The second press of Pad 6 will send a value of 127, opening the filter completely.

Note: Be sure to check the MIDI Channel assignment to make sure it matches that of the receiving device.

5.1.5 Assign an Encoder to control a MIDI CC # between two values

The encoders are assignable using the same techniques described for the pads. Let's give a quick example of an interesting use: setting the rate of an LFO so it operates only within a certain range.



Looking at the picture above we see familiar information:

- Encoder 5 has been selected, so it is shown in red.
- It is assigned to the Global MIDI channel; you can specify any MIDI channel from 1-16 or leave it on the Global channel.
- Its Mode is set to Continuous, which means it will transmit a MIDI Continuous Controller number when it is turned.
- The second Mode field is set to Absolute, which means it will transmit in a linear fashion from fully counter-clockwise to fully clockwise.
- The CC number field shows CC# 76, the MIDI CC # that has been assigned to control Vibrato Rate.

- The Min / LSB and Max / MSB fields are set in such a way as to limit Encoder 5 to operation only within a certain range.

To summarize, the settings seen above mean that Encoder 5 will control the Vibrato Rate of the target device, sweeping it between the values of 10 and 32 only. The vibrato will not become too fast, nor will it become too slow.

Naturally you can choose settings that are appropriate for the MIDI device you are using.

Note: Some devices may not use standard MIDI controller assignments. Refer to the documentation for your device to determine what settings to use for each purpose.

5.1.6 Assign the Mod strip to Aftertouch

Another cool thing about having such a flexible, powerful controller is having the ability to experiment with non-standard assignments for the hardware. For example, rather than using the Mod strip to control Modulation, why not take advantage of its ability to control Aftertouch?

And by control, we mean *control*. One of the physical limitations of standard Aftertouch implementation in a keyboard is that you have to keep consistent pressure on the keys or else it fluctuates, goes too far, and/or goes away altogether. With MIDI Control Center you can assign the Mod strip to bring in Aftertouch either gradually or instantly, and then have the value you choose stay *chosen* until you touch the Mod strip again.

What follows is a walk-through on how to do all of the things mentioned above.

Note: The receiving device determines which parameter is affected by incoming Aftertouch messages.

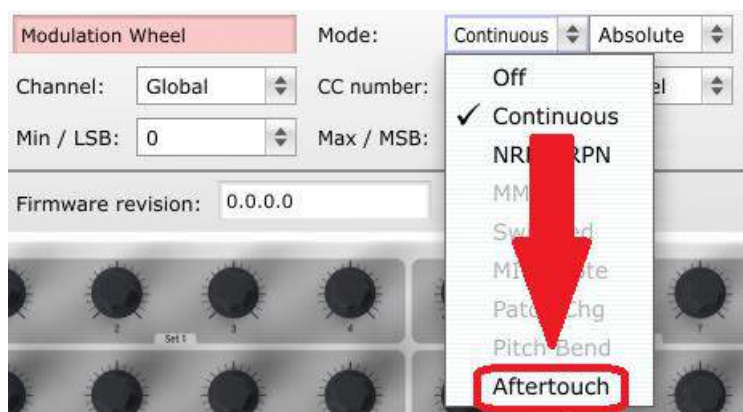
5.1.6.1 Select the Mod strip

Touch the Mod strip to select it as the control to be edited. Its graphic will be highlighted in the MIDI Control Center:



5.1.6.2 Select the Message Type (Mode)

Click on the Mode menu and select Aftertouch as the message type. It's at the bottom of the drop-down list:



5.1.6.3 Standard vs. Hold

Next to the Mode, which you just set to Aftertouch, is another drop-down menu. It probably says "Standard", which means Aftertouch will 'snap to zero' when the Mod strip is released. If you want the Aftertouch value to remain where you put it, select "Hold".



5.1.7 Save the changes to a Preset

So let's review what we've done in section 5.1 so far: The pads have been set up to play kick and snare, toggle the filter settings, and start / stop the song; one of the encoders is controlling the vibrato rate, and the Mod strip is controlling Aftertouch. Not bad! There's a lot more MiniLab can do, but that's a good start.

So the next thing to do is make sure this configuration is available when you want it. To do that, you need to save these settings as a group into one of the eight memory locations in the MiniLab.

The upper right-hand section of the MIDI Control Center software has a button called "Send to Keyboard". Right below that is a pull-down menu that allows you to specify which of the MiniLab's eight memory locations will be the repository for the Preset you've created.

Before clicking the top button, select a location you know is available. We'll use memory location #2 for this example:



Select #2 in the drop-down list as pictured above.

Once you're sure where the preset will be stored, click the "Send to Keyboard" button:



That's all there is to it! The preset you created has been safely stored to memory location #2, and can be recalled by using the Shift button and Pad #2 together. See section 5.1.8 below for details.

5.1.8 Recalling a Preset / Switching between Presets

Once you've created a couple of presets you can switch between your personalized configurations very quickly. This is as simple as it can be: simply hold the Shift button and press one of the pads.



In the picture above the combination of the Shift button and Pad 2 will select Preset #2 from the MiniLab preset memory locations.

To switch from Preset #2 to Preset #1, hold Shift again and press Pad 1 instead.

5.2 Changing the Global MIDI Channel

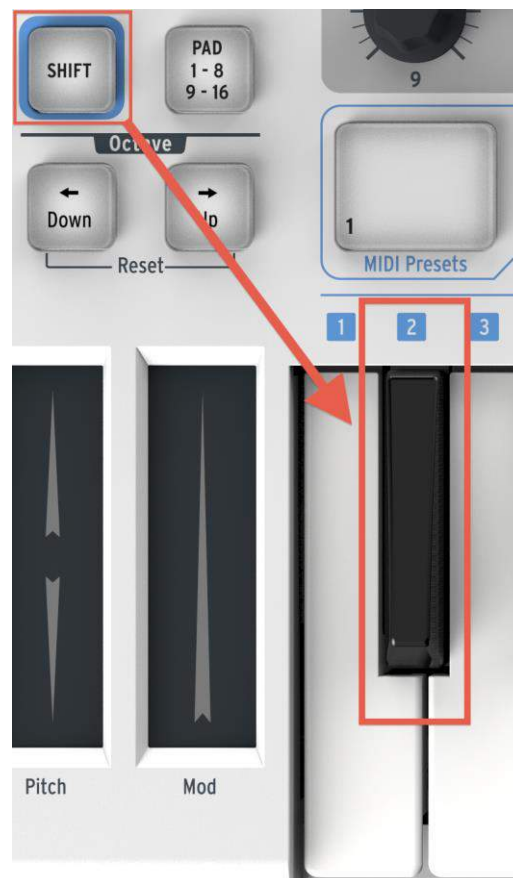
Switching between MIDI Channels is one very quick way to select which instrument and/or track you are controlling in your DAW software. The combination of the Shift button and one of the keys on the MiniLab keyboard is how this is done.



Notice that there are numbers in small blue boxes above each of the first sixteen keys on the MiniLab keyboard. These correspond to the 16 possible MIDI channel numbers,

and indicate which key you should use in conjunction with the Shift button to change the Global MIDI Channel setting.

For example, if you want to switch the Global channel of the MiniLab to MIDI Channel 2, hold the Shift button and press the first C# key:



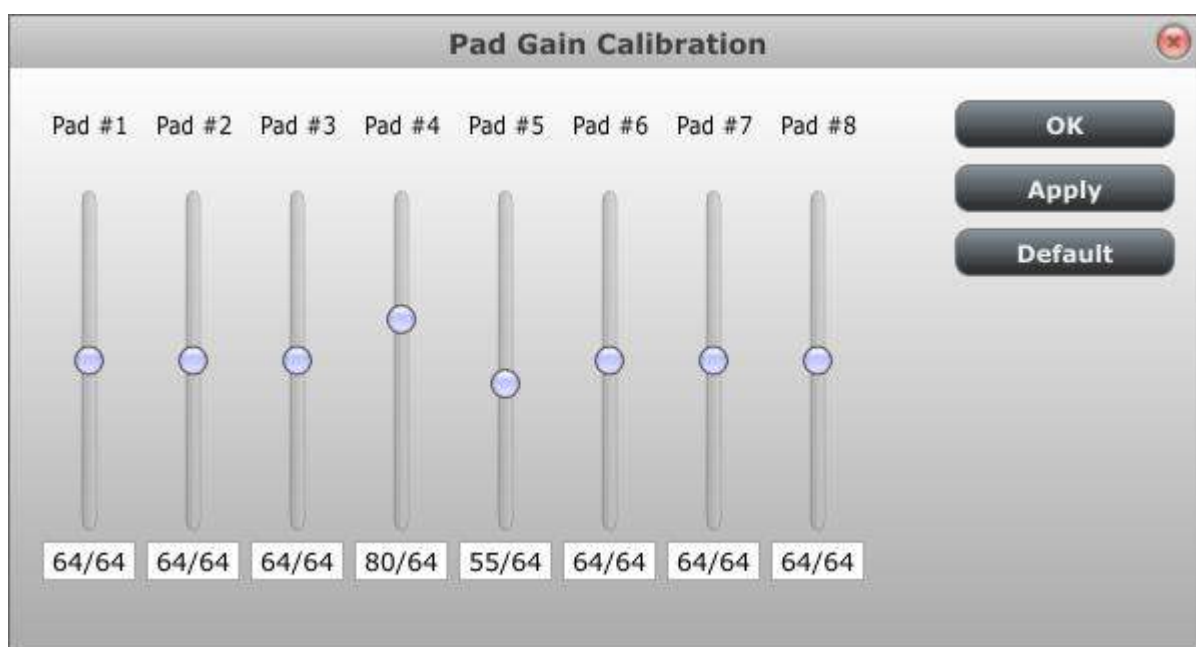
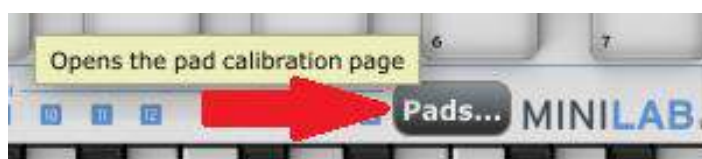
Then when it's time to switch to channel 1, for example, use the same technique but press a different key: in that case, you would hold the Shift button and press the first C key on the keyboard.

6 ADVANCED SETUP INFORMATION

6.1 Pad calibration

Pad thresholds are calibrated at the factory, so you shouldn't encounter an overly sensitive pad. These settings are not user-editable.

On the other hand, the full range of the pad is not set, and should you wish to alter that somewhat, you may use the pad calibration page:



Here you can alter the pad velocity gain. Each of the 8 hardware pads has a dedicated setting.

Please be cautious with low values, as they could have some negative side effects.

OK	Apply all changes and close this dialog window.
Apply	Apply all changes but keep this dialog window open.
Default	Set all sliders to the center position.
Close window	Don't commit changes to keyboard.

These settings are stored into a non volatile memory inside keyboard (very much the way presets are).

6.2 Upgrade firmware

We've done our best to provide you with bug-free firmware (the software inside the keyboard itself)

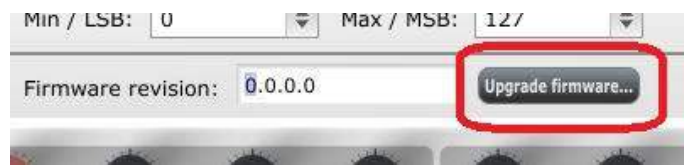
Should a problem be found later however, you should be able to upgrade it using the procedure described below.

We strongly advise you to perform such an upgrade only if instructed to by an Arturia support engineer.

The current firmware revision is automatically displayed at launch time provided the keyboard is plugged in.

Before attempting this procedure, be sure to have the new firmware file handy.

- Click on the "Upgrade firmware..." button:



- As instructed, unplug the keyboard, then plug it in again **while holding the keyboard shift key**, this will enter the firmware upgrade mode
- Locate the file with the new firmware version that you want to load.
- Wait for completion

